

CNC MACHINE PROGRAMMER, ASSOCIATE IN SCIENCE DEGREE

Financial Aid Eligible

Banner Code: 1_AS_MTMP

Control Number: 08635

The CNC Machine Programmer certificate includes courses designed to upgrade the skills and knowledge of the machinist or the CNC machine operator to the level of the CNC machine programmer. If you are a machinist and have minimal experience with CNC machines or machine language programming, you will first want to complete the CNC Machine Operator Professional Upgrade Certificate. If you have both machining experience and CNC experience, the software used for the Machine Technology A133 and A134 courses provides excellent experiences in computer-assisted CNC programming. All of our programming courses require the use of a personal-type computer. If you have no computer experience, we strongly suggest you enroll in a basic computer use type course first (Computer & High Technology A100 or Computer Information Systems A100).

Complete the CNC Machine Programmer Certificate of Achievement and the Associate in Science graduation requirements as outlined in the Graduation Requirements section of the catalog.

Program Outcome

1. Write part machine programs for controlling CNC lathes and milling machines.

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Associate in Science Degree Requirements

1. **UNIT REQUIREMENT** - 60 UNITS, with at least a 2.0 grade point average. At least 12 of the units must be earned at OCC, with a minimum of one course taken for a letter grade. At least 3 units in an advanced course from the program must be completed at OCC. A student must be enrolled at the time of application for graduation. Units earned at an accredited college or university on a credit/no credit basis will be counted toward the degree requirements of the college, to a maximum of 15 units.
2. **MAJOR REQUIREMENT** - Complete the AA or AS major requirements as detailed in the Degree and Certificate section of this catalog.
3. **MATHEMATICS REQUIREMENT** - Demonstrate competence in mathematics by either obtaining a satisfactory grade (grade of "C" or better or "pass") in a mathematics course at or above the level of Intermediate Algebra as demonstrated by prior coursework, or by demonstrating competency that is comparable through the completion of a college-level math course that has Intermediate Algebra as a prerequisite: Psychology A160 or Math A100 or higher, with the exception of Math A220.
4. **GENERAL EDUCATION REQUIREMENT** - Students may choose to complete Option 1 (OCC AA GE) (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-arts-general-education->

[option-1/](https://catalog.cccd.edu/orange-coast/pathways/industrial-technology/manufacturing-technology/cnc-machine-programmer-associate-science-degree/orange-coast/general-education-patterns/associate-science-general-education-option-1/)), Option 1 (OCC AS GE) (<https://catalog.cccd.edu/orange-coast/pathways/industrial-technology/manufacturing-technology/cnc-machine-programmer-associate-science-degree/orange-coast/general-education-patterns/associate-science-general-education-option-1/>), Option 2 (CSU GE) (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-degree-general-education-option-2/>), or Option 3 (IGETC (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-degree-general-education-option-3/>)) to satisfy the general education requirement. See the General Education Patterns section of this catalog for more information.

Required Prerequisites

Machinist Certificate of Achievement

Course	Title	Units
Year 1		
Fall		
MACH A100	Introduction to Machine Shop	3
MACH A105	Lathe	5
MACH A120	Measurement and Blueprint Reading	3
MACH A121	Computations for Machinists	3
Units		14
Spring		
MACH A110	Milling Machine	5
MACH A115	Production Machining Techniques	2
MACH A130	Introduction to CNC and Manual Programming	3
Units		10
Total Units		24

Subtotal 24

Course	Title	Units
Year 1		
Fall		
MACH A125	CNC Machine Operation 1	3
Units		3
Spring		
MACH A126	CNC Machine Operation 2	2
MACH A142	Mastercam Solids	2
Units		4
Year 2		
Fall		
MACH A134	CNC Programming-Mastercam 2	3
MACH A141	Mastercam Lathe	1.5
Units		4.5
Total Units		11.5

Total Units 35.5

Requirement	Units
Program Major Units	35.5
AS General Education Option 1, 2, or 3	Varies
Transferable electives to satisfy unit requirement	Varies
Total Degree Units	60